

Abstract of the Disclosure

An orthogonal frequency division multiplexing (OFDM)-based synchronization detection apparatus including a 2^n level quantizing unit quantizing received data samples into levels of 2^n , where n is an integer greater than or equal to zero (0), and a delaying unit delaying the data samples quantized through the 2^n level quantizing unit by a predetermined number of clocks and outputting data indicative thereof. A shifting unit shifts the output data samples of the 2^n level quantizing unit by an amount corresponding to an exponent of the output data of the delaying unit and a peak detecting unit detects a peak value from sums of outputs from the shifting unit.